

NEW AUSTRALIAN BEES.

BY T. D. A. COCKERELL.

***Parasphecodes zamelanus* sp. n.**

Male. Length about 11 mm., anterior wing 8.3; entirely black, including antennæ and legs, except for the usual yellow clypeus, with the sides above black, the black areas uniting above, the upward extension of yellow ending in a sharp point; body throughout with thin but quite long and conspicuous dull white hair, stained with blackish on head and thorax above; clypeus prominent, with a median groove; sides of face with conspicuous white hair; front dull, but a shining crescent in front of middle ocellus; mesothorax dull, somewhat shining in middle, very finely punctured; scutellum bigibbous, the elevations distinctly shining; area of metathorax moderately shining with well-defined straight plicæ; tegulæ black with an obscure reddish spot; wings greyish hyaline, the outer margin darker; nervures dark fuscous; stigma light brown with dark border; second cubital cell very broad, receiving first recurrent nervure near end; legs with white hair; spurs pale; abdomen shining, finely punctured, no depression between first and second tergites; second sternite with a median elevation, not amounting to a spine.

Two from Dunalley, Tasmania, Dec. 26, 1917 (*G. H. Hardy*); Queensland Museum. Near to *P. cervicalis* Ckll., but larger and with different venation.

***Parasphecodes rufocollaris* sp. n.**

Female. Length about 7.5 mm., anterior wing 6.3; head and thorax black, with very little hair; prothorax, tubercles, and tegulæ bright ferruginous; surface of body dullish, with a sericeous lustre; mandibles dull red with black base; antennæ black; area of metathorax very large and long, without evident sculpture, the median triangular area completely dull, the broad marginal area somewhat shining; under the microscope the area shows an excessively minute reticulation; sides of metathorax with fine white tomentum, as if mildewed; wings long, reddish, stigma (very large) and nervures dark rufo-fuscous; second cubital cell higher than broad; first recurrent nervure meeting intercubitus; legs clear bright ferruginous, the tarsi with pale golden hair; abdomen rather narrow, cuneate basally, dark brownish red, stained with blackish, the third tergite very dark, and beyond that practically black; no hair bands or patches; first two tergites with a little elevation on each side; third sternite with pale hair, but on the next two it is black.

National Park, Queensland, Dec. 1921 (*H. Hacker*); Queensland Museum. Allied to *P. bribiensis* Ckll., but easily known by the peculiar colouration. Mr. Hacker had recognised it as a new species.

Parasphecodes anhybodinus sp. n.

Male. Length about 10 mm., anterior wing 8; head and thorax black, including mandibles and the very long antennæ; clypeus dull honey yellow, polished, the sides above black, middle depressed; hair of head and thorax thin, dull white, a little fuscous on vertex and scutellum; sides of face with rather dense white hair; mesothorax dull, finely and closely punctured, but the punctures clearly visible under a lens; scutellum bigibbous, the elevations shining, the distinct punctures well separated; area of metathorax large, dullish, with strong straight well-spaced plicæ at sides, but in middle with finely rugulose confused sculpture, hind margin obtuse, interrupted in middle; tegulæ dark rufous; wings hyaline, with a dusty apical spot; stigma and nervures dilute sepia; second cubital cell very broad, receiving recurrent nervure very near its end; abdomen with first three segments dark chestnut red, the first suffused with blackish basally, and with white hair, the third suffusedly blackish; fourth tergite and beyond black; no hair bands or patches; a deep cleft between first and second sternites, the second somewhat elevated basally; claspers with greatly swollen shining base.

Cheltenham, Victoria, April 13, 1918 (*F. E. Wilson*); Queensland Museum. Allied to *P. hybodinus* Ckll., but elevation of second sternite much less pronounced, and red of abdomen much darker. They agree in the shining snow-white hair on inner side of hind tarsi. The stigma of *P. hybodinus* is redder, and the wings are not so long. *P. hybodinus* has the malar space shorter, and the clypeal pale area clear light yellow.

Parasphecodes notescens sp. n.

Male (type). Length about 9 mm.; head and thorax black, with the clypeus (except a large black mark on each side above) pale yellow, labrum and mandibles reddish, tubercles clear red, tegulæ pale rufo-fulvous; antennæ very long, reaching base of abdomen, flagellum bright ferruginous beneath; face strongly narrowed below; hair of face, front, and thorax above pale fulvous, on cheeks and under side of thorax it is dull white; mesothorax and scutellum dull, minutely and densely punctured, hairy, but not sufficiently to hide the surface; area of metathorax large, dull, without a shining rim, with rather indistinct radiating plicæ; mesopleura dull, hairy; wings hyaline with an apical dusky spot; stigma and nervures dusky reddish; second cubital cell higher than broad, first recurrent nervure meeting interenbitus; legs bright ferruginous, with the coxæ, trochanters, femora at base and more extensively beneath, black; abdomen shining chestnut red, a moderate depression between first and second tergites, no basal black spot, tergites beyond the third more or less stained with blackish; second ventral segment not modified.

Female. Length about 9 mm.; head and thorax black, tubercles reddened apically, tegulæ rufo-fulvous; head and thorax above with fulvous hair, dense on postscutellum; area of metathorax semilunar, with fine dense plicæ, and a narrow shining rim; first recurrent nervure reaching second cubital cell a little

before end; femora black with apex broadly rufous; anterior and middle tibiæ dusky red, hind tibiæ black; anterior and middle tarsi reddish, hind pair black, with an orange brush at end of basitarsi; abdomen broad, minutely punctured, tergites dark red, with no black basal mark, extreme apex blackish; small cuneiform patches of white hair at lateral bases of second and third tergites; venter with white hair.

Beaconsfield, Victoria, Jan. 1, 1918 (*F. E. Wilson*, 510, 631); Queensland Museum. Closely related to *P. fultoni* Ckll., the male easily distinguished by the flagellum red beneath (all black in *P. fultoni*, and also in *P. rufulus* Friese), and the female by the red front and middle tibiæ.

***Parasphecodes subfultoni* sp. n.**

Female. So like *P. fultoni* Ckll. that I hesitated to separate it, but it is definitely distinct from the type of that species as follows:—Tegulæ rufous (not the clear rufo-fulvous of *P. fultoni*); wings blackish, unusually dark, with darker stigma and very dark nervures; area of metathorax large, with no crescentic margin, the surface covered with strongly wrinkled rugæ; middle tibiæ red at base (as also are the anterior ones); abdomen very dark red, the same colour throughout, the margins of the third and fourth tergites coloured like the rest. The venter has much white hair.

Victoria, 1923 (*E. Wilson*); Queensland Museum.

***Parasphecodes submoratus* sp. n.**

Female. Length about 7.6 mm.; head and thorax black, with thin white hair, becoming pale brown dorsally and even black on vertex; clypeus and tubercles entirely black; antennæ black; clypeus moderately shining, with scattered punctures, no median groove; front dull, somewhat shining at sides; mesothorax slightly shining, excessively finely punctured, median groove distinct; cheeks and pleura with conspicuous long white hair; scutellum bigibbous, the elevations shining; area of metathorax large, the basal part finely plicate, no distinct shining rim; under the microscope the area shows a very delicate cross-lineation; posterior truncation very small; tegulæ rufescent, very dark; wings dilute brown, stigma reddish brown, nervures dark fuscous; second cubital cell broad, first recurrent nervure meeting the intercubitus; legs black; abdomen chestnut red, the apical tergite blackened; hind margins of segments testaceous; no hair-patches; venter with white hair.

Russell Falls, National Park, Tasmania, Jan. 10, 1925 (*A. J. Turner*); Queensland Museum. In my manuscript table it runs to *P. lichatus* Sm., but it is evidently distinct. *P. lichatus* is a much larger insect.

***Parasphecodes submeracus* sp. n.**

Female. Length a little over 9 mm.; head and thorax dull black, robust, with rather abundant erect white hair (entirely white dorsally); mandibles very faintly reddish subapically; clypeus and tubercles entirely black; head

broad; clypeus shining, with widely scattered punctures, no median sulcus; flagellum with a very faint reddish tinge beneath; mesothorax entirely dull, the punctures so fine as to be hardly visible under a lens, but the microscope shows excessively dense small punctures; middle of postsutellum with dense pale tomentum; area of metathorax large, poorly defined, almost without distinct sculpture, but the microscope shows fine plicæ at the base; there is no shining rim; tegulæ very dark brown, almost black; wings greyish hyaline, with no evident apical cloud; stigma and nervures dull rufous; basal nervure very strongly bent, and ending a long distance from nervulus; second cubital cell higher than broad; first recurrent nervure meeting intercubitus, or going to apical corner of second cubital cell; legs black, with thick pale hair, spurs ferruginous; abdomen very broad, dull dark red, finely punctured, black beyond the third tergite; no hair-patches; venter with white hair; second sternite simple. Orange pollen (round grains, without spicules) has been collected on the hind femora and tibiæ, and the base of the abdomen beneath.

Stanthorpe, Queensland, Nov. 3, 1922 (*F. A. Perkins*); Queensland Museum. Also runs to *P. lichatus* in my table, and suggestive of *P. hirtiventris* Ckll., but quite distinct. The peculiar basal nervure is a good recognition mark.

Parasphecodes bribiensiformis sp. n.

Female. Like *P. bribiensis* Ckll., but area of metathorax much larger, subtriangular, with coarse though irregular plicæ; first abdominal tergite considerably broader, being much broader than long; base of second tergite pellucid whitish except at extreme sides; tegulæ piceous with a red spot (fulvotestaceous in *P. bribiensis*); hair of scutellum very pale fulvous.

Bribie Island, Queensland, Aug. 29, 1920 (*Hacker*); Queensland Museum. I hesitated whether to call this a variety of *P. bribiensis*, or a distinct species; but the area of metathorax is so different that it must apparently be separated.

The species of this group, with brown abdomen, and bosses on the first two tergites, are neither true *Parasphecodes* nor true *Halictus*. They may form a subgenus *Aphalictus* subg. n., probably to be treated as a genus when structural studies of both sexes can be made. The type of the subgenus is *P. bribiensis* Ckll.

Halictus morensis sp. n.

Female. Length about 8 mm.; robust, black, with very broad abdomen (its width over 3 mm.); tibiæ and tarsi entirely clear bright ferruginous; legs otherwise reddish brown, with the femora clear red apically; head broad; mandibles rufous in middle; scape black, flagellum ferruginous beneath; clypeus shining, punctate, convex, with no median sulcus; hair of head grey, rather abundant; front minutely striate; mesothorax and scutellum with short, rather dense, pale-fulvous hair; postscutellum with paler tomentum, very dense in middle; mesothorax dullish, scutellum shining, not bigibbous; area of metathorax semilunar, not at all pointed behind, and with no shining rim, the

surface densely sculptured all over, finely reticulate; posterior truncation sharply margined at sides; upper margin of prothorax at sides, and margin of tubercles, densely pale-tomentose; tegulae ferruginous; wings hyaline, slightly dusky, stigma and nervures light ferruginous; second cubital cell very broad; first recurrent nervure meeting intercubitus; outer recurrent and intercubitus weakened; hind spur simple; abdomen shining, with erect pale hair at base and sides; basal pale ochreous-tinted hair-bands on segments 2 to 4, broad at sides, contracted or interrupted in middle; extreme apex with red hair.

Moree, N.S.W., March 1923 (*A. P. Dodd*); Queensland Museum. Related to *H. conspicuus* Smith (of which *H. alboguttatus* Friese appears from the description to be a synonym), but with bands instead of spots on the abdomen.

***Halictus picticornis* sp. n.**

Male (type). Length about 4.5 mm., anterior wing 3.5; black, the clypeus with a broad yellow band (its upper margin rounded); mandibles ferruginous; flagellum bright ferruginous beneath, with the last three joints black; tubercles clear ferruginous, this colour extending some distance along the margin of the prothorax; tegulae bright ferruginous; knees red, and basitarsi pale dull reddish; abdomen somewhat brownish, first tergite with a broad bright ferruginous margin, second less conspicuously reddened apically; pubescence scanty and pale, the abdomen with thin hair, but no bands or patches. Face narrow, eyes converging below; clypeus strongly produced; antennae of moderate length; front and mesothorax very densely punctured, the mesothorax slightly shining; postscutellum with a dense tuft of hair; area of metathorax minutely rugulose all over, with no shining margin; wings greyish hyaline, stigma rather small, dark reddish; nervures very dark, the outer ones strong; second cubital cell narrowed above, angulate where it receives the recurrent nervure some distance from end; abdomen shining, second tergite with a basal depression.

Female. Length about 5.5 mm.; black, with mandibles reddened apically; flagellum clear bright ferruginous beneath, except at base; thorax entirely black; mesothorax evidently shining, with well-separated punctures on a minutely sculptured (not polished) surface; area of metathorax semilunar, densely covered with irregular veriform rugae, with no shining rim; legs obscure brownish; anterior knees red, hind spur with four or five very short oblique teeth, and one large obtuse one; nervures rather paler, and outer ones weaker than in male; abdomen shining black, hind margins of tergites obscurely brownish; no bands or patches, but a thin covering of pale hair giving a pruinose effect.

Caloundra, 1916 (*H. Hacker*); Queensland Museum. The male Jan. 20, the female Jan. 2. The male will be easily recognised by the peculiar antennae. The female is very near *H. plebeius* Ckll., but smaller, with yellowish and fuscous hair on hind legs. It is also allied to *H. globosus* Smith.

Halictus excusus sp. n.

Male. Length about 7.5 mm.; slender, black, with a large triangular cream-coloured mark on clypeus (but labrum and mandibles black); antennæ very long, flagellum moniliform, entirely black; tubercles black; tegulae dark, with a red spot; legs black, the tarsi with dense white hair on inner side; abdomen black, densely and rather coarsely punctured, extreme bases of third and fourth tergites red, only visible when much extended. Head rather broad; face covered with white hair; hair of thorax above dilute brownish; mesothorax entirely dull, it and the scutellum excessively densely punctured; area of metathorax semilunar, dull, rugulose, with dense vermiform rugæ, and no shining rim; wings hyaline, faintly dusky along outer margin; stigma dull reddish, with darker margin; nervures fuscous; second cubital cell broad, receiving recurrent nervure just before end; abdomen moderately shining, without hair bands or spots; conspicuous erect pale hair on first tergite; venter with bands of white hair.

Pyengana, Tasmania, Dec. 31, 1915 (*F. M. Littler*). Runs in my table to *H. lanariellus* Ckll., but is separated at once by the entirely dull mesothorax.

Halictus viridarii sp. n.

Male. Length about 7 mm.; black, rather stout, with a broad transverse pale-yellow band on clypeus; labrum black; mandibles faintly reddened apically; antennæ long, reaching postscutellum, entirely dark; tubercles black; tegulae rufous; legs black, with thin white hair; abdomen black, closely punctured, hind margins of tergites faintly brownish. Head broad; face covered with white hair; hair of scutellum and postscutellum white; mesothorax dull, very densely punctured; scutellum moderately shining; area of metathorax large, shining apically, covered with fine plicæ, delicate and confused in middle, distinct and straight at sides; wings hyaline, stigma dilute brown; nervures pale brown, becoming colourless apically; second cubital cell large, but higher than wide, first recurrent nervure meeting intercubitus; abdomen rather broad, thinly hairy, with distinct patches of greyish hair at lateral bases of second and third tergites; apex with a dark shining rounded plate; fringes of ventral segments extremely short and scanty.

National Park, Queensland, Dec. 1919 (*H. Hacker*); Queensland Museum. Resembles *H. excusus*, but area of metathorax and abdomen quite different. It may also be compared with *H. granulithorax* Ckll., *H. pulvitectus* Ckll., and *H. baudini* Ckll., but is quite distinct.

Halictus subplebeius sp. n.

Male. Length about 6.8 mm., anterior wing 5.8; black, rather robust, the abdomen broad for a male; clypeus with a broad creamy white band, having a slight median extension above; labrum black; mandibles dark red subapically; antennæ long, entirely black; face broad; clypeus short, shining,

with scattered punctures; supraclypeal area large, convex, shining but not polished; hair of head and thorax scanty, dull white, face with little hair; mesothorax shining, with scattered punctures; scutellum shining, with only the faintest median depression; area of metathorax large, semilunar, concave, the margin somewhat shining, the surface very delicately sculptured with fine plicæ, irregular and more or less joined by minute cross-lines, and failing some distance before the apex, the region beyond the plicæ granular; posterior truncation dullish; tegulæ practically black, with an obscured red spot; wings dusky, stigma dark reddish brown, nervures fuscous; second cubital cell broad, receiving recurrent nervure at apical corner; third cubital broader above than second; legs black, with the tarsi obscure reddish brown; abdomen polished, shining, pure black, without hair bands or spots.

Two males: National Park, Queensland, Dec. 1919 (*H. Hacker*); Queensland Museum. Resembles *H. plebeius* Ckll., but much larger, with dark tegulæ and different metathorax.

***Halictus exceptus* sp. n.**

Female. Length about 7 mm.; robust, black, including antennæ; mandibles obscurely reddened apically; pubescence very scanty and short; head broad, inner orbits arched; clypeus shining, with scattered punctures, not at all sulcate in middle; supraclypeal area dullish; mesothorax shining, with well separated strong punctures (dense at sides), the intervals minutely striate; scutellum moderately shining, the median depression very weak; mesopleura transversely striate; area of metathorax large, semilunar, dullish, with very delicate plicæ, the margin not distinctly shining; the plicæ fail a considerable distance before the margin; tegulæ rather dark rufous; wings rather strongly reddened; stigma large, dusky rufous, nervures fuscous; second cubital cell very broad, receiving recurrent nervure near end; outer recurrent and intercubitus much weakened; legs obscure brownish, the tarsi rather pale reddish brown; abdomen shining black, with very little hair, but small white hair-patches at lateral bases of second and third tergites, and, when the fourth tergite is extended, an entire white band (dense at sides, thin and weak in middle) is seen at base; hair of venter straight and comparatively short.

Three females: Tooloom, N.S.W., Jan. 1926 (*H. Hacker*). Allied to *H. seminitens* Ckll., but readily distinguished by the tarsi.

***Halictus micridoneus* sp. n.**

Male. Length about 4.5 mm.; shining black, with rather short abdomen, head large and rather broad; pubescence pale and very scanty, the face and clypeus with thin erect white hair; antennæ short, like those of a female; tegument of clypeus black, the extreme edge hardly noticeably pallid; labrum rufous; mandibles black, with a broad light-yellow band; supraclypeal area shining; front very densely punctured; at each side of the ocelli is a shining area with sparser punctures; mesothorax shining, but strongly punctured;

scutellum polished; area of metathorax dull, subreticulate, with coarse rugæ, no shining margin; tegulæ rufous; wings hyaline, the pale stigma dark-margined; second cubital cell very broad; first recurrent nervure joining third cubital cell, some distance from base; legs with white hair, knees red, and tarsi pale red; abdomen shining, a strong sulcus between first and second tergites; hind margins of tergites somewhat pallid; no hair bands or spots.

Brisbane, Nov. 19, 1913 (*H. Hacker*). Runs near *H. idoneus* Ckll., but that is much larger. It is much like *H. cyclognathus* Ckll., but the face is much narrower, &c. The general aspect suggests *H. forticornis* Ckll., but the antennæ are quite different. The venation is peculiar.

Halictus euryurus sp. n.

Male. Length nearly 6 mm., anterior wing about 5; black, the abdomen broad-oval, the hind margins of the tergites beyond the first stramineous; face broad, tegument of clypeus entirely black, mandibles obscurely reddish apically; hair of head and thorax rather abundant, long, white, long but thin on front of head; antennæ of moderate length, black, the flagellum very obscurely brownish beneath; clypeus flattened, shining, depressed in the middle at lower end; supraclypeal area very sparsely punctured; front densely punctured; mesothorax and scutellum strongly punctured, only moderately shining; area of metathorax with sharp straight plicæ, only two or three in middle wrinkled, margin shining; posterior truncation dull; tegulæ dark rufous; wings clear hyaline, iridescent, stigma pale reddish, nervures pale, second cubital cell broadened below, receiving first recurrent nervure some distance from its end; outer recurrent and intercubitus much weakened; legs black, small joints of tarsi rufescent, hind tibiæ robust; abdomen moderately shining, finely punctured.

Adaminaby, N.S.W., Oct. 19, 1918 (*A. J. Turner*); Queensland Museum. Somewhat allied to *H. macrops* Ckll. and *H. bursariæ* Ckll. The metathorax and antennæ separate it at once from *H. macrops*. The mesothorax is much more coarsely punctured than in *H. clariventris* Friese.

Halictus sculpturatus sp. n.

Male. Length about 6.5 mm.; black, moderately robust, the abdomen without hair bands or patches; face rather broad, with thin white hair; clypeus with a transverse cream-coloured band; labrum reddish; mandibles reddened subapically; antennæ rather long, flagellum moniliform, obscurely brownish beneath; front very densely punctured; hair of thorax scanty, white; long, erect, and pure white on postscutellum; mesothorax shining, strongly punctured, median groove strong, and on each side of it anteriorly oblique striæ; area of metathorax semilunar, not pointed behind, appearing to have no shining rim, but seen from behind a small shining edge is visible; surface of area strongly sculptured all over, the plicæ wrinkled and irregular in middle, straight and distinct at sides; tegulæ dark rufous; wings brownish hyaline, iridescent, stigma dark reddish brown; nervures fuscous, second cubital cell

rather narrow, first recurrent meeting intercubitus; legs black, the last joint bright red at apex, the claws tipped with black; abdomen shining, finely punctured; ventral segments with bands of white hair.

Stradbroke Island, Sept. 17, 1915 (*H. Hacker*). Allied to *H. spenceri* Ckll., but mesothorax and area of metathorax quite different.

***Halictus evasus* sp. n.**

Female. Length 7 mm.; black, head and thorax with rather long white hair, quite dense on cheeks and postscutellum; mandibles black; face broad, clypeus shining, punctured, not sulcate in middle; supraclypeal area shining, sparsely punctured, the punctures smaller than on clypeus; upper margin of clypeus microscopically transversely lineolate; front dull, densely punctured; antennæ entirely dark; mesothorax dull, very coarsely punctured; scutellum polished, with very fine punctures; area of metathorax concave, shining, with fine regular plicæ all over, the hind margin swollen and obtuse, slightly interrupted in middle, hardly shining; mesopleura transversely striate; tegulae very dark, almost black; wings hyaline, faintly brownish; stigma and nervures dull brown; second cubital cell broad, receiving recurrent nervure at its apical corner; outer recurrent and intercubitus very weak; legs black, very hairy; hind spur with a large rounded lamella near base; abdomen broad, shining, thinly hairy, with distinct but well-separated punctures, hind margins of tergites not discoloured; second and third tergites basally at sides with cuneiform patches of white hair; hair of venter long and abundant.

Coolangatta, Queensland, Sept. 6, 1913 (*A. J. Turner*); Queensland Museum. Very close to *H. confusellus* Ckll., but easily separated by the more robust, dull, coarsely sculptured mesothorax, and the shining area of metathorax.

***Halictus limatiformis* var. *scrupulosus* var. n.**

Female. First abdominal segment, and sometimes much of base of second, clear red.

Nanango district, Queensland, Nov. 1927 (*H. Hacker*). I thought at first that this was a new species allied to *H. tatei* Ckll., but it is certainly only a variety of *H. limatiformis*, the normal form of which occurs in the same district.

***Halictus suburbanus* sp. n.**

Female. Length hardly 5 mm., not very robust; head broad, dull dark green; mandibles dark reddish apically; flagellum dull reddish beneath; clypeus black, with the upper margin broadly green, and a purple suffusion below the green; supraclypeal area finely tessellated and sparsely punctured, the lower part purplish; front minutely punctato-striate; hair of head and thorax scanty and white; mesothorax and scutellum dull emerald green, the scutellum a little more shining, but not at all polished; surface of mesothorax very finely and densely sculptured all over; area of metathorax with strong straight plicæ, but sculptured between, posterior rim shining when seen from behind;

tegulae rather small, shining rufous; wings greyish hyaline, stigma dark brown; second cubital cell broad below, narrower above, receiving first recurrent nervure near its end; third cubital very short, outer recurrent and intercubitus much weakened; femora black with knees red; tibiae and tarsi red, the colour rather dull; abdomen not specially broad, shining black, pruinose-pubescent with the hind margins of the tergites somewhat discoloured or brownish.

National Park, Queensland, 3,000 ft., March 1, 1921 (*A. J. Turner*); Queensland Museum. Very close to *H. urbanus* Smith, but the mesothorax is larger and duller. Also close to *H. williamsi* Ckll., but mesothorax more shining, and bluer green, and scutellum shining. These bees could be regarded as local races of *H. urbanus*, unless the males show structural differences. The original *H. urbanus* came from Champion Bay, W. Australia.

***Halictus dorsicyaneus* sp. n.**

Female. Length about 5 mm., not very robust, abdomen not broadened; head black; mesothorax small, dark blue, shining but not polished; scutellum blue, with two polished shining spaces; metathorax black; area large, finely sculptured, semicircular, without a shining rim; flagellum obscurely rufescent beneath; hair of head and thorax scanty, white; tegulae small, dark rufous; wings clear hyaline; stigma large, pale brownish, nervures pale, outer ones very weak; second cubital cell rather broad, receiving recurrent nervure before its end; legs black, knees and small joints of tarsi red; abdomen shining black, with little hair, the apical part thinly pubescent. The mesothorax is microscopically tessellate, with scattered punctures; the area of metathorax, seen under the microscope, is coarsely reticulate.

Launceston, Tasmania, Jan. 23, 1916 (*F. M. Littler*). In my table it runs to *H. kestereni* Ckll., which differs at once by blue metathorax. Compared with *H. inclinans* Smith, it is less robust, with darker tegulae and different abdomen.

***Halictus luctificus* sp. n.**

Female. Length about 5.4 mm., rather robust; head black, mesothorax dull very dark green, scutellum dark blue, with two polished areas; area of metathorax large, crescentic, dull and coarsely sculptured (minutely reticulate, appearing coarsely so under microscope), with a very conspicuous regularly curved shining margin; metathorax black; hair of head and thorax very scanty; tegulae dark rufous; wings clear hyaline, with pale testaceous stigma and pale nervures, the outer recurrent and intercubitus very weak; first recurrent nervure joining basal corner of third cubital cell, the outer and lower boundaries of which are reduced to thin hyaline lines, hardly visible even under the microscope; legs with knees and small joints of tarsi red; abdomen broad, shining black, thinly pubescent in the apical region. The supraelypeal area is polished, with scattered punctures, and the punctures on elypeus are very large.

Launceston, Tasmania, Jan. 23, 1916 (*F. M. Littler*). Allied closely to the last, and also to *H. mundulus* Ckll., from which it is distinguished by the shining margin of metathoracic area. At the same time and place, Mr. Littler took a couple of *H. subinclinans* Ckll.

***Paracolletes cyaneorufus* sp. n.**

Female. Length about 7.5 mm.; robust, head and thorax black, abdomen dusky chestnut red, with a delicate purple suffusion; pubescence very scanty, pure white on cheeks and under part of thorax, white also on upper part of head, but on thorax above brown, though hardly noticeable; mandibles long, bidentate, wholly dark; face very broad, clypeus and supraclypeal area highly polished, the clypeus with widely scattered large punctures; front dull in middle, striate, shining and punctate at sides; antennæ black, the flagellum very obscurely reddish beneath apically; mesothorax dull; scutellum polished; area of metathorax triangular, with a transverse ridge; sides of thorax dull, with a brilliant shining space below wings; tegulæ rufous; wings brownish hyaline; stigma ferruginous, with dark margin; marginal cell obliquely truncate at end; basal nervure almost reaching the very oblique nervulus; second cubital cell rather small, triangular, with a very small face on marginal cell; the first recurrent nervure joining second cubital very near its end; upper apical corner of third discoidal a right angle; legs brownish black, anterior knees rufescent; scopa of hind tibiæ pallid; abdomen shining, without hair bands or spots, apex with a fringe of brown hair.

Bribie Island, Aug. 29, 1920 (*H. Hacker*); Queensland Museum. Close to *P. rufoæneus* Friese, but considerably smaller. The genus *Euryglossidia* is related to *Paracolletes* of this group, and not to *Euryglossa*.

***Paracolletes melanurus* sp. n.**

Female. Length about 6.8 mm.; black, the abdomen a faintly reddish black, and the hind tibiæ and tarsi obscurely brownish; hair of head and thorax extremely scanty, fuscous on scutellum; antennæ short, black, the apical part of flagellum very obscurely reddish beneath; mandibles long, with inner tooth remote from the reddish apex; face very broad, the clypeus, supraclypeal area, and a space at each side of antennæ shining; clypeus with scattered strong punctures; front dull; mesothorax dull, scutellum moderately shining; area of metathorax polished, without sculpture; tegulæ brown; wings reddish hyaline; stigma large, solid dark reddish; nervures fuscous; basal nervure meeting nervulus; marginal cell very long, with narrow end; second cubital cell small, narrowed above, receiving recurrent nervure a little beyond middle; first cubital longer than the other two together; scopa of hind tibiæ brown; abdomen shining, practically hairless above, but with very dark brown hair at apex; venter with erect pale (slightly ochreous) hair.

Toooloom, N.S.W., Jan. 1926 (*H. Hacker*); Queensland Museum. Rather like *P. nitidulus* Ckll. in appearance, but venation quite different. The venation, except for the more produced marginal cell, is much in the style of *P. incanescens* Ckll.

Paracolletes semiviridis sp. n.

Male. Length about 8.3 mm.; head and thorax black, with much outstanding white hair, pale ochreous on thorax above; hair of face very dense, long, silky, and pure white; mandibles rufescent apically; antennæ only moderately long, the flagellum chestnut red beneath except basally; front and vertex dull; mesothorax and scutellum dull; base of metathorax shining; tegulae brown; wings strongly brownish, with dark stigma (which is well developed) and nervures; basal nervure falling conspicuously short of nervulus; second cubital cell receiving recurrent nervure slightly beyond middle, practically at middle; third cubital very long, receiving second recurrent a considerable distance before end; femora black, with knees red; tibiae and tarsi bright chestnut red; abdomen dull olive green, closely and finely punctured, hind margins of tergites very pale testaceous, and thinly beset with short white hair, only noticeable in certain lights; apex with white hair; venter with bands of pure white hair.

Charleville, Queensland, Sept. 12, 1920 (*A. J. Turner*); Queensland Museum. This may be compared with *P. castaneipes* Ckll., which is much larger, with black hair on thorax above.

Paracolletes nomiaformis sp. n.

Male. Length about 8 mm.; black, with the hind margins of the closely punctured abdomen broadly testaceous, with a little red just above; head and thorax densely hairy, the hair long and shaggy, white on cheeks and lower part of mesopleura, dull white on face and front, very pale greyish, with a yellowish tinge, on thorax above and on vertex; mandibles with a bright red subapical band; tegument of elypeus all black; flagellum very short, bright ferruginous beneath except at base; a polished shining area at each side of vertex; mesothorax shining, finely punctured; scutellum polished; base of metathorax rugulose, with a fine transverse keel, the marginal sutures heavily ridged laterally; tegulae dark reddish, closely punctured; wings greyish hyaline, the apex suffusedly darker; stigma well developed but narrow, dark rufous; basal nervure falling conspicuously short of nervulus; marginal cell rather short, obliquely truncate; second cubital cell very small, receiving recurrent nervure near middle; third cubital very long, receiving second recurrent far from end; legs dark brown, with white hair; abdomen loosely hairy all over, but without hair-bands.

Three males: Charleville, Queensland, Sept. 11, 1920 (*A. J. Turner*); Queensland Museum. Very near *P. sigillatus* Ckll., but smaller, face much narrower, and mesothorax much more punctured. It looks like a *Nomia*.

Paracolletes plumosus (Smith).

Female: Stanthorpe, Q., 6-1-26 (*F. A. Perkins*). The base of the metathorax may or may not be transversely striate in this species, as I have understood it. Possibly more extensive collecting may show that two species are included in *P. plumosus* as now understood. The genitalia of the males should be examined.

Paracolletes providus (Smith).

Females: Stanthorpe, Q., 7-10-24 and 3-10-24 (*F. A. Perkins*). I have received additional specimens of *P. hackeri* Ckll. from Mr. Hacker, and find the distinction from *P. providus* difficult to appreciate. Typically, the abdomen of *P. providus* is more polished and oily-appearing, not so strongly punctured, while *P. hackeri* has a tuft of dull fulvous-tinted hair in front of each tegula. But I am no longer confident that these differences do not fall within the range of variation of *P. providus*. The matter can only be settled by those on the spot, or by the collection of good series in typical localities.

Nomia geophila sp. n.

Male. Length 8-9 mm., anterior wing 6.5; black, with the hind margins of the second and following abdominal tergites hyaline; pubescence white, dense on face, covering the surface; on the thorax above the hair is greyish; tegument of clypeus wholly black; mandibles more or less rufous beyond the base; flagellum very short for a male, entirely dark; mesothorax shining, with distinct not very close punctures; scutellum quite closely punctured, depressed in middle; metathorax shining, the striated basal area forming a very narrow band, obtusely angulate behind in middle; a depressed polished space above hind legs; tegulae very dark brown, with hyaline margins; wings hyaline, the apical margin faintly clouded; stigma small, dusky rufous; nervures dark fuscous; second cubital cell very small, receiving recurrent nervure beyond the middle; legs dark brown, with dull white hair; hind legs not modified, but all the femora very short and small; abdomen finely punctured, very conspicuously on first tergite, no hair-bands; hind trochanters with a small apical process above; venter not modified; claspers long and thin, with an expanded apex, from the inner corner of which, directed obliquely mesad, is a finger-like process; spatha broad basally, narrowing to the apical part, which is rod-like, obtuse at end; tongue slender, dagger-like, only moderately long.

Two males: "Bred earth cells, 10-11-18, Moree"; Queensland Museum. Closely related to *N. gilberti* Ckll., but antennae a little shorter, mesothorax shining, and postscutellum without the dense covering of pure white hair, nor are there conspicuous white hair-patches at sides of scutellum. In *N. frenchi* Ckll. the antennae are very much longer.

Nomia grisella Ckll., described from Cape York, has been found by W. C. Dornier at Gordonvale, Feb. 24, 1923.

Exoneura tasmanica sp. n.

Male. Length 7 mm.; head and thorax shining black; hair of head black, thin but long and outstanding on face, on thorax pure white beneath, and dorsally brown, a sort of very dilute chocolate colour; eyes black, very large, converging below; clypeus long and narrow, cream-coloured, with dull surface; in the narrow space between clypeus and eye there is on each side a cream-coloured line; labrum white, with a black spot at each side, mandibles

rufescent apically; antennæ black; tubercles black; tegulæ very dark brown, nearly black; wings reddish hyaline; stigma long lanceolate, ferruginous, with a dark margin; recurrent nervure joining second cubital cell at extreme basal corner; legs basally black, with the knees, tibiæ, and tarsi bright ferruginous; anterior and middle tibiæ with no dark markings, but hind tibiæ with a broad black band posteriorly; abdomen rather dark red, the first two tergites black with red margin, the third with a black discal suffusion, the fourth to sixth with lateral black marks, large on sixth; venter mainly clear red, but partly dark basally.

Windermere, Tasmania, Feb. 13, 1916 (*F. M. Littler*). This cannot be the male of *E. turneri* Ckll., as that has much darker wings, and the recurrent nervure ending far from base of second cubital cell. The face-marking, colour of pubescence, and venation readily distinguish it from all known males.

***Palæorhiza flavomellea* Cockerell.**

Two females: Dunk Island, Aug. 25, 1927 (*F. A. Perkins*).

***Palæorhiza parallela recessiva* Cockerell.**

Female: Palm Island, May 30, 1926 (*F. A. Perkins*).

***Hylæus chlorosoma* Cockerell.**

Female: Stanthorpe, Q., 10-11-23 (*F. A. Perkins*).

***Euryglossa mutica* Cockerell.**

Male: Stanthorpe, Q., 10-11-23 (*F. A. Perkins*).

***Pachyprosopis aurantipes* Cockerell.**

Male: Stanthorpe, Q., 10-11-23 (*F. A. Perkins*).